GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington, D. C.)

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Photograph by Siukee Mack

CANTONESE, LIKE BEANS, "GROW" ON POLES

The natives of Kwangtung Province are skilled in handling poles—carrying poles, sedan chair poles, lantern poles, and boat poles. Reason for the skill is the absence from Kwangtung landscape of beasts of burden; human population is too thick to leave room for pasturage, and human needs prevent a foodstuff surplus for animals. Almost all traffic moves on foot or by boat, or in man-powered chairs or wheelbarrows. Scarcity of roads and bridges places great importance on boats, which children early learn to handle. The broad peaked hat is a shelter from sudden showers and hot sun, for most of Kwangtung is in the tropics (Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Entered as second-class matter, Jan. 27, 1922, Post Office, Washington, D. C., under act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of Oct. 3, 1917, authorized Feb. 9, 1922. Copyright, 1938, by National Geographic Society, Washington, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.

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Jerusalem Really Two Cities in One

ENTRY of British troops into the walled inner city of Jerusalem, where Arab rebels had barricaded themselves, gives England again uneasy control of both modern and ancient sections of the "Holy City." Brought into sharp relief was the dual nature of Palestine's capital as Arabs hid in sacred spots of the Old City.

Jerusalem is really two towns in one (illustration, next page). The fixed core of the Old City is surrounded by a constantly expanding rim of the New.

Within the hoary walls of "Old Jerusalem" lie crumbling ruins, minarets, mosques, synagogues, and convents, ancient market places, shadowy lanes and slums. Carried on in its four subdivisions—Armenian, Christian Greek and Latin, Jewish, and Moslem Quarters—is the traditional life of ritual; while outside hums the modern, growing Jerusalem of tourists, new buildings, shops, banks, educational institutions, Chamber of Commerce, and Y.M.C.A.

Home of Three Creeds

To three of the world's powerful religions, Moslem, Jewish, and Christian, Jerusalem is hallowed ground. Within the Old City are three of the most sacred goals of these faiths—the Christian Church of the Holy Sepulchre, the Moslem Mosque of Omar (so called), and the Wailing Wall, where pious Jews come to pray and lament (illustration, inside cover).

The Church of the Holy Sepulchre, legendary site where Christ was crucified, was buried, rose from the dead, is shared by nearly all the churches of Christendom —Greek Orthodox, Roman Catholic, Armenian, Jacobite, and Coptic.

So revered by the Moslems is their Mosque of Omar, third Mohammedan center after Mecca and Medina, that British forces in the recent siege of the Old City did not fire on it, lest the "desecration" plunge all Islam into revolt.

Jerusalem is sacred also to the streams of pilgrims converging there from all parts of the world. Visiting Moslems of North Africa, India, Arabia; Jews of Poland, Central Europe, the Near East; Americans, Englishmen, Latins—all help to make this a mixing but not a melting pot of the East.

Pilgrims Chief Source of Income

On both sides of the walls—in the dark and narrow arcaded streets of the old section, impossible for motor traffic, or along the paved and brightly lighted ways of new Jerusalem—one meets a striking variety of costumes and types. American and European women dressed in sports clothes and smart 1938 hats rub elbows with slippered Arab women in heavy skirts, men of the desert in burnoose, priests in robes, Jews of many lands.

It is from these streams of pious pilgrims, plus income from charitable and religious institutions, that modern Jerusalem makes most of its living. In the city's expanding outer shell, business—in normal peacetime—is booming. Modern hotels, parks, movies, and shopping centers selling anything from postcards and souvenirs to airplane tickets, automobiles, and radios, give evidence of new vitality in this metropolis of the ages.

Neither so gay nor so bustling as other new Palestine cities—such as Tel Aviv, for example, with its greater tide of Jewish immigration—New Jerusalem, nevertheless, is a steadily growing community.

Note: The December, 1938, *National Geographic Magazine,* in addition to the article "Change Comes to Palestine," will contain a wall map supplement, 25 by 35 inches, of Bible Lands and the Cradle of Western Civilization.

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Photograph from Publishers' Photo Service

A MOSLEM MOSQUE HAS REPLACED SOLOMON'S JEWISH TEMPLE IN THE CHRISTIANS' HOLY CITY

On the raised surface of Mount Moriah stands the octagonal mosque topped by the Dome of the Rock (left) and sentineled by a typical minaret for the *muezzin*, or prayer-caller. Detached panels of stone arches in front of the mosque are *mawazin*, or "scales," in which Moslem tradition says souls will be weighed on Judgment Day. The lower courses of the deep wall on the right serve the Jews as their "Wailing Wall" (Bulletin No. 1).

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Invaded Kwangtung Is China's Most Fertile and Familiar Province

WHEN Japanese troops last month landed in that notorious pirates' lair, Bias Bay, and pushed Canton-ward into Kwangtung Province of southern China, they struck at the solar plexus of the embattled Chinese nation.

This rich province has supplied much of the food, much of the man power, much of the morale, and—as a transfer point—much of the munitions of war with which China has recently been fighting. The railroad from the port of Hong Kong through Canton is the most direct link with Hankow.

Although 90 per cent of Kwangtung is hilly, it takes its name ("Eastern Plain") from the level seaward stretch which is dotted with some of the most important ports of China—Canton, Hong Kong, Wuchow, Swatow, Macao. The green, ever-warm plain is farmed with the attention to detail elsewhere given to manicures, and yields three crops a year. Produce of a single acre must feed almost 3,500 people, since cultivated plains cover only one-tenth of the province.

Accepted as Symbolic of China

Inhabitants of Kwangtung, generally yellower and more almond-eyed than their northern brothers, are famous for their endurance, progressive ideas, and feverish industry.

Ever since the fifteenth century, when world commerce took to sails instead of caravans, this southernmost province has been China's shop window, and the city of Canton has been the counter across which the rich merchandise of the Orient was bartered. Cantonese called their southern metropolis Sheng-cheng, "City of Perfection," but word-careless, profit-careful foreign traders mistakenly applied the province's name to the city, mispronouncing it in addition. Kwangtung, or Quangtong, became Canton, a word fragrant around the world with the odor of sandalwood and ginger and tea, colorful with the sheen of jade and the shine of silk and the gleam of lacquer, quaint with recollections of hand-painted tea sets and carved ivory trinkets and ebony boxes inlaid with mother-of-pearl.

The crowded Kwangtung plain, especially the Pearl River delta below Canton, soon spilled its surplus population into every continent. Most Chinese elsewhere in the world are descendants of globe-trotting Cantonese. As a result, life in Kwangtung is accepted abroad as typical of life in China; symbols have been made of coolies and canals, houseboats and green flooded rice fields.

George Washington Sent First Consul to Canton

While Canton for three centuries was the only portal to the fabulous riches of Cathay, traders swarmed into the province like bees. Portuguese sailors of the sixteenth century needed a place to spread out wet cargo to dry; the land conceded to their emergency is Portuguese still, for by this ruse they obtained the fans-and-firecrackers port of Macao, now known for gambling. The British East India Company had headquarters in Canton from 1684 until 1839, when Chinese objections to their importing opium started a war. So the British seized the island of Hong Kong ("Sweet Streams") and began to build Victoria, a city hopefully named for England's girl queen.

French stake in Kwangtung is the leased freeport of Kwang-chow on the southern coast. On this same coast a famous French missionary died in 1852—François Xavier, a founder of the Jesuit order.

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Photograph from Air Ministry, Great Britain

TWO JERUSALEMS OCCUPY THE SAME AIR PHOTO

The old Holy City appears in the lower right quarter of the picture, enclosed within its dark shadow band of ancient wall. The Garden of Gethsemane begins to the right of it (E-6), and slopes off the page up the Mount of Olives. The road at the lower right goes to Jericho; that at lower left, to Bethlehem. Largest feature of the old city is the Dome of the Rock in its extensive grounds, the so-called Mosque of Omar, occupying the site of Solomon's temple. The Church of the Holy Sepulchre appears as a small white swastika (C-D 5-6). Beyond the old city spreads the new Jerusalem, where wider streets and more modern homes allow space for many of the 125,000 inhabitants that give Jerusalem 29 language groups.

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Fort Raleigh on Roanoke Island Deeded to United States

A LITTLE fort, once so far from government protection that it was wiped out, has at last been reconstructed and placed in the protective custody of the United States. North Carolina recently deeded restored Fort Raleigh to the Federal Government, to be maintained as a national monument.

At the northern end of Roanoke Island, Fort Raleigh is American history's most mysterious ghost town. Here Sir Walter Raleigh, by remote control, tried to transplant England and raise a fortune; but produced only a sad crop of unanswered wheres, whens, and whys concerning the fate of its pioneer inhabitants.

Heroine of Fort Raleigh's mystery drama is baby Virginia Dare, first English child born in the New World and the female Peter Pan of American history. Although she was born 351 years ago, she is still remembered as an infant. Her fate is as uncertain now as when she was reported missing by her grandfather, Governor White, in 1590. Perhaps the country's first kidnaping victim, she disappeared with the rest of the "Lost Colony."

Two Groups Lost in Rapid Succession

The mystery-shrouded infant is an important figure in the summer pageant, "The Lost Colony," which for two years has drawn visitors from afar to the outdoor theater on Roanoke Island on North Carolina's coast.

As a matter of record, two groups were "lost" from Fort Raleigh instead of merely the more famous one. Fifteen men were left to hold the fort in 1586. Except for a skeleton, there was no trace of them in 1587, when the Colony-About-To-Be-Lost arrived on the scene to pick them up.

The unfortunate fifteen were indirect causes as well as prophets of their successors' fate. When the 1587 colonists reached Roanoke on their rescue mission, it was too late in the summer for the three vessels to explore northward for a new settlement in Virginia, where English homesteading did not take root until twenty years later, at Jamestown. Governor White returned to England for a winter's provisions; but for almost three years every effort he made to relieve Roanoke was foiled by England's war with Spain, even after the Armada had been scattered over the waves which Britannia thereafter ruled. His tardy arrival at Fort Raleigh was greeted only by silence and desolation.

"Croatoan" Carved on Post Only Clue

The "Lost Colony" was followed up by five rescue expeditions. By then it became apparent that the island must not have the right soil for planting young colonies, and vessels thereafter set their course farther north.

The mysteriously abandoned Fort Raleigh, described in 1590 by its returning governor as a deserted shambles almost overgrown with grass and weeds, has been restored. A "high palisade of great trees, very fortlike," again surrounds the settlement site with stout brown juniper logs. Crude blockhouses guard the wall's corners and flank the heavy gate. On a post beside the gate is the inscription, "CROATOAN," still puzzling as the only clue to the colony's mass disappearance.

Within the inclosure stand small thatched-roof cabins, built of juniper logs much as children build flimsy little cubes of match stems. Prominent among them is the story-and-a-half restored cabin of Governor John White, Virginia Dare's grandfather.

Of the same match-stem style of architecture is the log church. Corners of

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Kwangtung was the scene of early American contacts. Major Sam Shaw, appointed in 1790 by George Washington, was received into official circles of Canton as first consul to the Chinese Empire. First Chinese treaty with the United States was signed in a temple in Macao.

Most of the province lies below the Tropic of Cancer, which marks the northern rim of the tropics about 20 miles above Canton. The subtropical monsoon climate provides a good hothouse for vegetables and fruit. Sugar cane and melons, garlic, ginger, and tea, mulberries and tobacco, peanuts, oranges and several kinds of bananas flourish the year around, with never a threat of frost. Tree crops include fan palms, English walnuts, lichee nuts, and tung oil.

There is no State in the United States with as many inhabitants as Kwangtung, although there are seven larger. With an area just smaller than Colorado's, Kwangtung has a population about 36 times as numerous—around 36 million.

Although Kwangtung, through Canton, first became famous for silk and china, embroideries and palm-leaf fans, a modern product has given it greater importance —tungsten. The province has mines of wolframite ore, containing tungsten, with which China for a while practically supplied the world for use in making the tough alloy, tungsten steel.

Kwangtung's "cash crop" is still silk. Mulberry trees in tidy avenues stripe with green the lower slopes of the province's hilly regions.

Note: Canton and Kwangtung Province are further described in "Among the Big Knot Lois of Hainan," *National Geographic Magazine*, September, 1938; "Four Thousand Hours over China," May, 1938; "Hong Kong—Britain's Far-flung Outpost in China," March, 1938; "Changing Canton," December, 1937; "Coastal Cities of China," November, 1934; "Macao, 'Land of Sweet Sadness,'" September, 1932; and "Life Afloat in China," June, 1927.

Bulletin No. 2, November 7, 1938.

Photograph by Siukee Mack

KNEE-DEEP IN KWANGTUNG RICE FARMING

Two crops of rice a year on the same land are still not enough to feed Kwangtung's 36 million people. Much grain must be imported. To farm every palm's-breadth of earth, women workers transplant rice seedlings by hand from seed beds to fields watered to the thickness of mush. Crude bamboo water wheels, operated by hand and foot, scoop water from stream or canal to flood the fields. About 60 per cent of all the farm land of Kwangtung is irrigated.

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Pineapple: Globe-Trotting Fruit from America

HAWAIIAN sugar is being hard pressed to maintain first place among the Territory's exports by the once unimportant pineapple. The Governor's annual report, just submitted to the Secretary of the Interior, shows that last year sugar shipments were valued at $63,575,478 while exports of pineapple soared to $59,395,090.

This rapid increase of shipments of the far-traveling fruit makes it the second-ranking canned fruit on the pantry shelves of the United States. Peach orchards, which yield the No. 1 fruit for canning, are a familiar part of the local landscape. But the pineapple, which stands a close second, must travel in tin from distant fields of subtropical warmth.

The Hawaiian Islands can 80 per cent of the world's pineapple. Florida is the only State in the Union reporting a crop.

The exotic pineapple is of Latin-American birth. Wild pineapples, growing in highland forests of interior Brazil and Paraguay, resemble the ancestors of today's fruit—a fist-size three-inch "apple," full of black seeds and topped by a tuft of grassy spears of leaf. Several centuries of domestic life have improved the species to a size approaching 12 pounds in weight and to a state of complete seedlessness. New plants are started from slips of old ones.

Columbus Discovered the Pineapple

Air plants, such as the Spanish moss festooning with dolorous gray the trees of Florida and Louisiana, are cousins to the pineapple. The fruit that went abroad to make its fortune shows its kinship with the air-eating moss by a surprising disdain for soil in which to anchor its shallow roots. The pineapple seeks food in the earth no farther than a foot from its base, and plants continue to thrive when all their roots dry up.

The secret is that the pineapple uses its head, the rosette of waxy green leaves that makes it "king of fruits, by nature crowned." The crown forms a funnel of leaves spread like sails to sunlight, catching rain and dew to pour straight into the burgeoning fruit.

An unsung discovery of Christopher Columbus was the "pine" fruit he came upon unexpectedly in 1493 when he landed at Guadeloupe in the West Indies. Mineral-minded Spanish Conquistadores, seeking silver and gold metals, overlooked the edible gold of the pineapple. They hastily observed that "in shape and color this scale-coated fruit resembles the pine cone," and thereafter to them it was known as "pine of the Indies." Later explorers from Portugal and France paused to learn and adopt the Carib Indian name *ananas*, the "excelling fruit."

The English, translating Spanish descriptions of a tropical delicacy "delightful to taste and full of juyce," amended the name around 1604 from "pine" to the more appetizing "pine-apple."

The tropical fruit that is now anybody's for a can-opener was once a luxury for kings. A pineapple was presented to Ferdinand and Isabella, first financiers of the New World, as a rarity.

A Dutch gardener finally developed a strain that would grow more generally in Europe, and soon every large estate had a hothouse for cultivating the pineapple. By 1769 this had become "the fashionable Test of good Gardening." The symbol of lavish hospitality in Colonial America, the pineapple was worked into the design of carved woodwork and furniture of that period along the Atlantic seaboard.

Sixteenth century traders, exuberant at the new-found water routes in which they could follow Magellan around the globe, added pineapples to the new commodities they were feeding into expanding commerce between hemispheres. The same era that transplanted coffee and bananas to the Americas scattered pineapples throughout the Old World's tropics.

Planted Through Strips of Paper

The canning capital of the pineapple's kingdom was Singapore until the end of the nineteenth century (illustration, next page). Since 1892 Honolulu has forged into the lead. Other centers of commercial pineapple culture are Australia, the Philippines, the Netherlands Indies, and the Union of South Africa. Most of the fresh fruit reaches the United States from the West Indies, chiefly Cuba and Puerto Rico, and arrives in Europe mainly from the Azores.

Shipwrecked Spaniards from Mexico brought the pineapple to Hawaii, according to one island tale. Another relates how the fruit washed ashore among the provisions of a sinking whaling vessel. "Foreign pandanus" is the natives' title for it, in recognition of its recent arrival and its resemblance to their hala tree's pandanus fruit. As early as 1813 the foreign fruit, half-wild but juicy, nevertheless, had its place in Hawaiian gardens as an exotic table delicacy fashionable during the reigns of the Kamehamehas.

The broad Hawaiian acres of pineapple plantation are literally wrapped in paper. The red-dish ground is striped with long gray swathes of mulching paper at planting time, and the young pineapple slip is stuck through the paper into the earth with a sharp-bladed "planting-iron." The paper outlaws weeds and promotes a 20 per cent greater yield.

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the walls and of the steeple, primitive but proud, are marked by lines of criss-crossed log ends. Rafters and windows are pure backwoods Gothic; no arches, but simple peaks formed where two logs meet at an angle.

This resurrected "citie of Raleigh" is now the center of interest on Roanoke Island, but not the only "city." The 25-mile-square island, North Carolina's largest, has two small towns for its present population of sailors and fishermen; Manteo on the northeast and Wanchese on the southwest, joined by the island's single highway. The larger, Manteo, has a population approaching 600, hardly five times as large as the original number of the "Lost Colony."

The island lies between the mainland of North Carolina and the shifting string of sandbanks which make this one of the most dangerous regions on the Atlantic coast. North of the island spreads Albemarle Sound, and below it lies the swamp-bordered expanse of Pamlico Sound, largest body of water in the State.

The sandbank bulwarks which protect this region from the Atlantic Ocean include Bodie Island just east of Roanoke Island; Hatteras Island, with its elbow bend to the southwest of the abandoned lighthouse at the Cape; and Ocracoke Island, candidate for the sixteenth century title of Croatoan, home island of friendly Manteo and possible refuge for which the "Lost Colony" may have headed after abandoning Fort Raleigh.

Note: For additional photographs of Roanoke Island and the Albemarle Sound area see "A Bit of Elizabethan England in America," *National Geographic Magazine*, December, 1933; and "Motor-Coaching Through North Carolina," May, 1926.

See also in the GEOGRAPHIC NEWS BULLETINS: "Cape Hatteras Beacon Becomes an 'Interior' Lighthouse," January 11, 1937; and "An Air Pilgrimage to the Birthplace of Aviation," October 29, 1934.

Bulletin No. 3, November 7, 1938.

From the John White Pictures

SEA SERPENTS AND SHIPWRECKS WERE PORTRAYED AS ROANOKE ISLAND HAZARDS

Roanoke Island (left above center) shows a small circular stockade on the site of Fort Raleigh. Indian archers hunt deer on the island, while southeast of it is a fish trap. The name *Roanoak* appears above the stockade, near where the town of Manteo now stands. Today a modern highway, the Virginia Dare Trail, links the coastal islands, now a continuous strip of beach. Here modern aviation was born during the Wright brothers' experiments outside Kittyhawk. This crude sketch, surprisingly accurate before the days of air views, was made by John White, grandfather of Virginia Dare.

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Australia Would Continue as New Guinea Guardian

"WE WANT to keep our job as guardian," is the theme of official spokesmen for Australia, on the subject of the Mandated Territory of New Guinea. This region was a German colony before the World War, but was turned over to Australia to be governed under mandate from the League of Nations.

When rumors began to circulate that some former German colonies might be demanded by the present German Reich, Australia started a strong "backwash" to oppose any ideas of change. British capital, invested in many enterprises, public and private, has improved and modernized the region.

The Mandated Territory, with an area of about 93,000 square miles, includes (1) the northeastern part of the island of New Guinea, second largest island yet known in the world; (2) the Bismarck Archipelago, with its two islands of New Britain and New Ireland; and (3) the northern islands of the Solomon Group—Bougainville and Buka. These lands are distributed through tropical waters of the Pacific Ocean just five degrees south of the Equator.

Volcano Causes Change of Capitals

Until a year ago, the capital of this Mandated Territory was Rabaul. But volcanic eruptions half buried the tropical town under volcanic ash and lava, and changed it overnight into a "Pompeii of the Pacific." Less than six months ago, the government announced that the new capital would be Salamaua, on the main island of New Guinea.

Rabaul, the old Capital, situated on the northern tip of the crescent-shaped island of New Britain, has always lived in the shadow of volcanoes, and to its 9,700 inhabitants (700 Europeans, 1,000 Asiatics, and 8,000 natives) eruptions were not unknown. In 1878, 1916, and 1919 severe shocks were felt as the three famous volcanoes, the "Mother" and the "two Daughters," which formed a grim background for the town, erupted. On May 29, 1937, everyone in Rabaul was driven from town when lava burst from a crater on Vulcan Island in Rabaul Harbor. A number of lives were lost and property damage was heavy.

Gold Rushed Development of Unexplored Interior

Salamaua, the new capital on the southern portion of the "mainland" of the island of New Guinea, is in the Morobe district, one of the three into which this area is divided. Located on a small isthmus, its picturesque harbor has a sandy beach, coconut palms, and towering mountains in the distance. Before its selection as the capital of the Mandated Territory, it was known principally as the port of entry to the now famous gold fields of the Bulolo River, 40 miles to the southwest (illustration, next page). Salamaua was also the port of departure for the millions of dollars' worth of gold taken annually from the Edie Creek and other gold fields in the New Guinea hinterland.

When gold was discovered on Edie Creek in 1926, a gold rush started, and Wau, the center of the gold fields, became a boom town. The only way to get to the gold country, which was 6,000 feet above sea level, was by foot through tangled mountainous jungle. The 40-mile trek through this unexplored tangle of dense forest, thick undergrowth, and malarial swampland took at least eight days. Poisonous snakes and insects, dense vegetation, and savage natives all combined to keep the white man out of the rich, mysterious gold country beyond.

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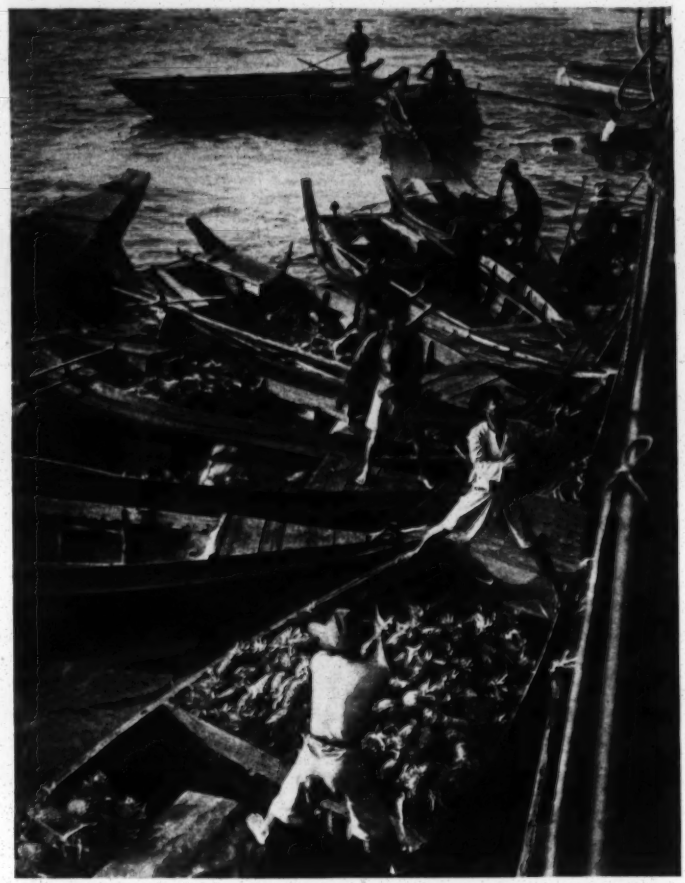
The plant develops a single stalk two to four feet high topped by its leaf rosette, immediately below which the stalk swells into fruit. The pineapple is really a composite of many individual fruits. Its collective nature appears in the flower cluster: a red-violet bloom of three petals forms at each "eye" of the future pineapple. About a year and a half after planting, the fruit is ripe, yielding from 20 to 35 tons per acre.

Two tons of raw pineapple make only one ton of canned fruit. Half gets to market as fruit, one-fourth as juice, and the other fourth in the form of various by-products, including pineapple bran for cattle feed, citric acid, and industrial alcohol, the latter being pineapple's third-ranking form in market value. Pineapple fiber was once used on the Pacific islands to make the soft textile known as piña cloth, but machine-loomed cottons have superseded it.

Note: Additional photographs and facts about pineapple are to be found in "Hawaii Then and Now," *National Geographic Magazine*, October, 1938; "Singapore: Far East Gibraltar," May, 1938; "European Outpost: The Azores," January, 1935; "Cuba—The Isle of Romance," September, 1933; "The Greatest Voyage in the Annals of the Sea" (Magellan), December, 1932; "Under the South African Union," April, 1931; and "Porto Rico, The Gate of Riches," December, 1924.

Bulletin No. 4, November 7, 1938.



© *Screen Traveler, from Gendreau*

LITTLE BOATS TAKE A BIG BUSINESS FOR A RIDE

From Malayan pineapple fields of the surrounding tropics, steamers collect the fruit to feed Singapore's canneries. Then small boats and skillful pitcher-and-catcher boatmen transfer the scratchy cargo to land. After pineapples were introduced into the Orient, Singapore became the world's leading "pine" center. The fact that Singapore also handles about half the world's output of tin made this port the logical place to pioneer in pineapple canning.

In spite of incredible hardships, sickness, and even death, man was victorious. The lure of gold was stronger than the perils of one of the last unknown regions of the world.

In April, 1927, a new chapter in exploration and aviation was opened when the first flight was made from the coast to Wau in a little over an hour's time.

Airports of New Guinea Busy

Today the airports at Salamaua and Wau are among the busiest in the world and their planes carry the most varied of cargoes. Not only are passengers flown, but automobiles, cattle, dredging and electric machinery, building materials and millions of pounds of gold. In 1936, two hundred white men and 6,816 natives were employed in and around the gold fields of the Bulolo River. Prospectors mingle with mining wardens, mine inspectors, geologists, surveyors, engineers, and doctors in this region, which is in truth a man's world.

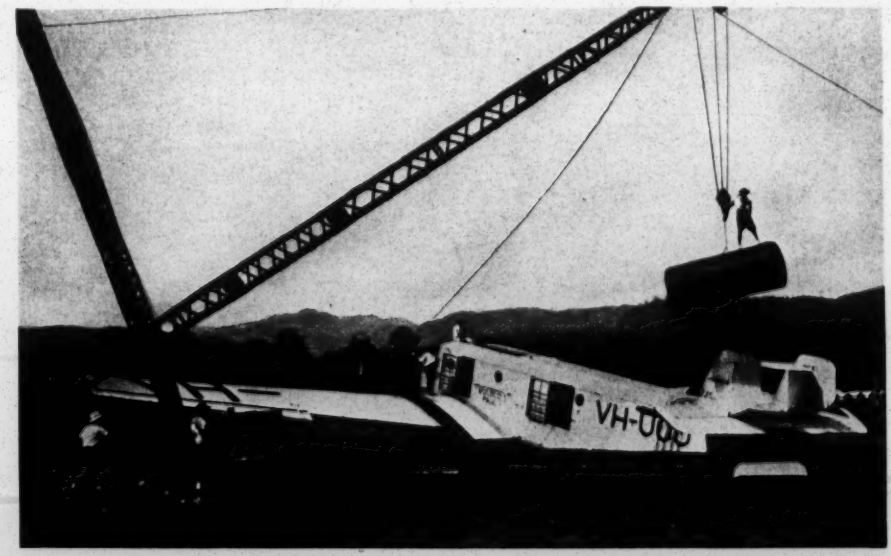
Salamaua and Wau, on both ends of the air route of gold, are modern towns in a region which was among the last to be explored. Attractive homes, hospitals, hotels, stores, government buildings, schools, churches, power plants, and wireless stations have made these towns miniature English cities in a South Sea island setting.

Note: See also "The *Pilgrim* Sails the Seven Seas," *National Geographic Magazine*, August, 1937; "Color Glimpses of the Changing South Seas" (color insert), March, 1934; "Men and Gold," April, 1933; "Into Primeval Papua by Seaplane," September, 1929; "Around the World in the *Islander*," February, 1928; "A Pictorial Jaunt Through Papua," January, 1927; and "The Islands of the Pacific," December, 1921.

See also in the GEOGRAPHIC NEWS BULLETINS: "New Guinea Divided Three Ways," March 22, 1937.

A wall map of the Pacific Ocean, with an inset showing the portion of New Guinea mandated to Australia, was issued with the December, 1936, *Geographic*. Additional copies can be obtained at 50c (paper) or 75c (linen).

Bulletin No. 5, November 7, 1938.



PROGRESS LEARNED TO FLY IN NEW GUINEA BEFORE IT CRAWLED

To develop gold fields of the interior wilds, horse-and-buggy and iron-horse-and-cars stages were skipped over, and heavy traffic moved by the largest airplanes available. With the roof removed for loading, a plane could carry iron girders or the three-ton boiler shown above, which could not otherwise have been hauled over jungle trails and five mountain ranges between the coast and the Bulolo gold fields, 55 miles inland from the port of Lae. To carry smaller freight overland required two weeks and untold labor; an airplane carried larger loads in an hour and a quarter.

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